

WHAT IS CLAIMED IS:

1. A method of increasing vascularity in a tissue flap, the method comprising contacting a tissue flap with an adenoviral vector, the adenoviral vector comprising a nucleic acid sequence encoding an angiogenic factor, whereby the nucleic acid sequence encoding the angiogenic factor is expressed in the tissue flap and vascularity in the tissue flap is increased.

3. The method of claim 1, wherein said adenoviral vector is replication-deficient.

4. The method of claim 1, wherein said angiogenic factor is a vascular endothelial growth factor (VEGF).

5. The method of claim 4, wherein the vascular endothelial growth factor is VEGF<sub>121</sub>.

6. The method of claim 1, wherein the adenoviral vector is injected into the tissue flap.

7. The method of claim 1, wherein the rate of necrosis in the tissue flap is decreased by contacting the tissue flap with the adenoviral vector.

8. The method of claim 1, wherein the adenoviral vector is within a pharmaceutically acceptable carrier and the tissue flap is contacted with the pharmaceutically acceptable carrier containing the adenoviral vector.

9. The method of claim 1, wherein the tissue flap is a completely dissociated tissue flap.

10. The method of claim 9, wherein said tissue flap is contacted with adenoviral vector prior to re-association of the tissue flap with an animal host.

11. The method of claim 1, wherein the tissue flap is substantially cut away from surrounding tissue, but is connected to, an animal host.

12. The method of claim 11, wherein the tissue flap is contact with the adenoviral vector prior to re-association of the tissue flap with the surrounding tissue.

13. The method of claim 1, wherein said angiogenic factor is acidic fibroblast growth factor, basic fibroblast growth factor, alpha tumor necrosis factor, beta tumor necrosis factor, platelet-derived growth factor, or angiogenin.